

**Pollen grains of *Picea*.**—POLLOCK<sup>45</sup> has described variations observed in the pollen grain structures of *Picea excelsa*, chiefly in reference to the so-called prothallial cells. The usual number of these cells reported for the Abietineae is two, but POLLOCK finds the variation in *Picea* to range from one to three, with one as the number in the majority of cases. This is an interesting situation, as these cells have been reported thus far for the conifers only among the more primitive Abietineae and Podocarpeae, and it shows that even here they are in a very fluctuating condition. The condition among the Araucarias, recently announced by THOMSON, is interpreted as representing a still greater multiplication of prothallial cells, an interpretation that is probably justified. That among the conifers all stages in the elimination of this tissue are represented seems evident.—J. M. C.

**Sclerotinia on *Forsythia*.**—OSTERWALDER<sup>46</sup> has described a disease of species of *Forsythia* induced by *Sclerotinia Libertiana* which has heretofore been reported only upon herbaceous plants. The fungus infects the shoots of *Forsythia* only through the withering flowers, and extends up and down the woody branches from those points, causing a wilting of the twigs alone. Sclerotia are formed abundantly on the infected parts and after being kept over winter produce the typical apothecia of *Sclerotinia*. Spores or mycelium grown therefrom produced the disease anew when placed on the floral parts. Although *Botrytis conidiophores* occurred on some of the withered flowers, the author was able to show that these were not connected with the *Sclerotinia*, thereby supporting the view that *Sclerotinia Libertiana* has no conidial form.—H. HASSELBRING.

**A sterile *Bryonia* hybrid.**—In studying the development of the sex organs of a sterile hybrid of *Bryonia alba* and *B. dioica*, TISCHLER<sup>47</sup> comes to the conclusions that the absolute sterility has nothing to do with the tetrad formation because the megaspore series shows the normal tetrads, and that while there are irregularities in the formation of pollen there are also cases in which normal pollen is formed. It is possible that the cause of sterility in hybrids is more complicated than has been supposed. This work does not support the theory that sterility is due to total or partial loss of power by the male or female chromosomes. It may be that the sterility is due to a low nutrition of the protoplasm. It seems probable that the cause of sterility can best be investigated by combining culture methods and cytology.—CHARLES J. CHAMBERLAIN.

**Photosynthesis.**—USHER and PRIESTLEY have contributed strong support to the theory of BAEYER that formaldehyde is the first product of photolysis of CO<sub>2</sub>.

<sup>45</sup> POLLOCK, JAMES B., Variations in the pollen grain of *Picea excelsa*. Amer. Nat. 40:253-286. pl. 1. 1906.

<sup>46</sup> OSTERWALDER, A., Die Sclerotienkrankheit bei den Forsythien. Zeitsch. Pflanzenkr. 15:321-329. pl. 5. 1905.

<sup>47</sup> TISCHLER, G., Ueber die Entwicklung der Sexualorgane bei einem sterilen *Bryonia*-Bastard. Ber. Deutsch. Bot. Gesell. 24:83-96. pl. 7. 1906.